Text Annotation as a Reading and Metacognitive Strategy: A Systematic Review of Literature

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ABSTRACT

This systematic review delves into the pressing issue of reading comprehension faced by language teachers in the Philippines. While there are several possible reasons for this problem, this study aims to focus on exploring potential strategies to alleviate the issue. Specifically, this paper examines text annotation as a viable reading and metacognitive strategy to improve reading comprehension. The findings of this research could provide valuable insights for language teachers looking to enhance their teaching methodologies and improve student learning outcomes.

INTRODUCTION

Reading, in contrast to the common belief that notes it as a receptive process only, is an interactive process and that the comprehension that comes with this involves intricate processes. To further elucidate this, Bonganciso and Bonganciso's (2022) theoretical frameworks, Muray's Interactive Theory and Rosenblatt's Transactional Theory, emphasized that reading is a result of the transaction between the reader and the reading material. Both of these theories claim that reading requires the reader to actively absorb information from the text, combine his/her prior knowledge and experiences with the text read, and construct new meanings. This shows that reading still stands as one of the most valuable language macro skills and reiterates that it is no way near a passive nor a dismissible activity.

However, despite of its importance, reading still turns out as one of the skills that learners lack mastery of. The Program for International Student Assessment (PISA) published the findings of their most current survey that evaluated the academic achievement of 15-year-old children in 2019. Reading comprehension was one of the areas evaluated, and the Philippines came in last out of all the countries that participated. This demonstrated the serious issue of the country's language learning crisis: that reading, and the comprehension that it requires, still persists to be a problem for language teachers in the Philippines (Bonganciso & Bonganciso, 2022).

There are several possible reasons for the reading difficulties that learners face. Nadrun and Yanti (2020) laid out the following: (1) having limited vocabulary and disinterest in using the dictionary which make them confused about the contents of the text, (2) lack of background knowledge and other relevant experiences, (3) confusion about the purpose of reading the material, and (4) overly fixating on the word-by-word meaning instead of making sense of the whole text. Bonganciso and Bonganciso (2022) on the other hand delineated the teacher factor regarding this issue. Some of the mentioned reasons of this problem are (1) that teachers expect that students will fully comprehend the texts instantaneously and therefore gloss over the fact that reading comprehension needs ample time and instruction to be developed; and (2) teachers' lack of training about teaching reading comprehension to students.

Moreover, it may be speculated that another factor why reading remains as one of the language skills that teachers are having a hard time to develop in both secondary and college students is because of the requirements it demands. Nadrun and Yanti (2020) mentioned that in the senior high school level, students are expected to be able to communicate in different formats and contexts. There is also the need to enhance

reading skills in order to match the requirements of the workplace as the current levels of literacy provided by the educational system might not be keeping up with it anymore. Furthermore, since essentially every part of modern life is already touched by technological advancements, it is not implausible to think that, in the future, the literary techniques taught to students now may not be able to adapt to these developments (Bonganciso & Bonganciso, 2022).

This pressing issue in the educational sector of the Philippines is repeatedly encountered in different grade levels. Some of the mentioned reasons of this problem, aside from the fact that students are struggling with it, are (1) that teachers expect that students will fully comprehend the texts instantaneously and therefore gloss over the fact that reading comprehension needs ample time and instruction to be developed; and (2) teachers' lack of training about teaching reading comprehension to students (Bonganciso & Bonganciso, 2022).

As a way to address these aforementioned problems, numerous researchers contributed to the cause and some of the strategies introduced as a means to alleviate the situation are metacognitive strategies (Bonganciso & Bonganciso, 2022). In an effort to support this, this systematic study will look at a specific metacognitive strategy which is text annotation, as a reading and metacognitive strategy to improve reading comprehension.

Statement of the Problem

In this literature review, the researcher aims to answer the following questions:

1. What is the role of text annotation in improving the students' level of comprehension?
2. How can text annotation be used as a metacognitive strategy in regulating students' comprehension while and after reading?
3. What can be said about the connection between metacognition and reading comprehension?

Research Objectives

There have been plenty of research about various reading strategies to improve reading comprehension. However, this paper will only focus on text annotation's effects on alleviating the difficulties experienced by learners with regards to reading comprehension. In line with this general objective, the researcher will review several studies and pieces of literature in order to:

- determine the role of text annotation in improving reading comprehension,
- describe how text annotation is used as a metacognitive strategy (e.g.., being aware of the uses of annotation to improve their comprehension, being able to self-manage their reading habits, etc.), and
- discuss the relationship between metacognition and reading comprehension.

Furthermore, the researcher will share her own perspectives on the findings of this systematic review that will help readers learn more about the practice of language teaching or learning and/or other pertinent perspectives relating to language education.

METHODOLOGY

This review will employ a qualitative descriptive research design, specifically content analysis, as its method of examining the selected studies and literature. A qualitative descriptive design is applied when the paper intends to provide a logical and straightforward description and/or summary of the informative contents of the data, while arranging it into varieties of ways such as according to time and chronology, main themes and subthemes, broader content to specific content and vice versa, etc. (Lambert & Lambert, 2012). As previously noted, content analysis will be utilized in this work to identify and observe the

attitudes, perspectives, and motivations of its author(s) as well as to derive verifiable and dependable conclusions regarding the contexts in which the texts were employed (Drisko & Maschi, 2016).

LITERATURE AND STUDIES REVIEW

Defining Text Annotation

Before diving into the specifics of how it is being utilized as a reading strategy, it is crucial to understand the definitions of text annotation based on research. Understanding the definitions of text annotation based on research is essential before delving into the intricacies of how it is being used as a reading method. This will provide an objective standpoint on what constitutes text annotation.

Text annotation is a technique used by readers to enhance comprehension and engage with the material. The practice involves marking up written text with a variety of symbols, codes, and notes to aid in interpretation and retention of information. According to Lloyd et al. (2022), text annotation refers to the organized use of markings, such as underlining, highlighting, and circling, as well as additional visual notes, such as drawing and writing, to identify important themes and details in the text. Nadrun and Yanti (2020) describe text annotation as an interactive reading strategy that students use to clarify unclear words, remember important information, or summarize key points.

Annotations can take many forms and serve a variety of purposes. Fowler (2019) suggests that annotations may involve highlighting, underlining, circling, questioning, showing the reader's perspective, analyzing literary devices, or commenting on the author's stylistic choices. These types of annotations can help readers engage with the text on a deeper level, making connections between the material and their own experiences or knowledge.

Woodward and Neunaber (2020) explain that text annotation typically involves highlighting important passages, underlining key words or phrases, and making comments in the margins of the text. These annotations can help readers remember important information, identify patterns and connections within the text, and develop a deeper understanding of the material.

O'Flaherty (2021) contextualized annotating as a strategy that involves marking the reading material by writing comments, notes, and questions in order to process one's thinking. In contrast to the previous researchers, she believed that simple markings such as highlighting and circling details are not considered as annotations when dealing with learners from higher grade levels and these formats should only be applicable for those who come from the lower grade levels. She claims that as the grade levels get higher, text annotation should be more critical. It should be noted that in her research, some literatures have mentioned that highlighting and circling details from the text is not considered as text annotation because it should be able to urge learners to generate questions, comments, and notes, rather than just marking what is obvious. Still, this supports the notion that text annotation is a way for students to ponder about the reading material.

In summary, text annotation is a valuable tool for readers looking to enhance their comprehension and engagement with written material. Annotation techniques may include underlining, highlighting, circling, questioning, showing perspective, analyzing literary devices, and commenting on the author's stylistic choices. By using these techniques, readers can better retain information and make meaningful connections between the text and their own experiences and knowledge.

Text Annotation as a Reading Strategy to Improve Comprehension

Reading comprehension was defined as the interaction between the reader, text, and activity. Annotation was presented as an effective strategy because it allows learners to interact with the reading material

meaningfully by breaking it down and understanding it through markings and notes (Lloyd et al., 2019).

In a study conducted by Lloyd et al. (2022), the effectiveness of using text annotation in historical texts as a reading comprehension strategy was investigated. The study aimed to determine the impact of this strategy on students' academic achievement. Despite the focus on social studies, the study highlighted the importance of reading comprehension in all content areas and emphasized that "every teacher is a reading teacher" (p. 219).

The study identified several benefits of using text annotation, such as visualizing key points, breaking down complex texts, slowing down reading, increasing focus, encouraging critical thinking, and enhancing discourse. These positive effects allowed students to connect better with the text and utilize their background knowledge to enhance their reading of historical texts. The results of the study showed significant positive effects on students' reading comprehension levels and academic achievement. Both students and teachers agreed that text annotation improved their understanding of historical texts. The participants of the study also expressed their intent to apply text annotation in other learning areas and not just in social studies, recognizing the importance of reading comprehension in all subjects.

In addition to the findings of Lloyd et al. (2022), Nadrun and Yanti's (2020) research also proved how effective text annotation is as a reading strategy. They explored on how text annotation improves the reading comprehension of grade 10 students. Results of this study show annotating texts' positive effects on the reading comprehension skills of the students. The improvement are indicated to have come from the following reasons: (1) text annotation strategy has proven its effectivity on maintaining the focus of students on the reading material, (2) text annotation strategy serves as an immediate self-monitoring tool for students' comprehension and retention of the text's main ideas, and (3) text annotation strategy enhances their close reading and critical reading skills by letting them set their purpose of reading and activate their prior knowledge.

In O'Flaherty's (2021) literature review about text annotation and reading comprehension, she emphasizes the positive effects of text annotation. Through annotated texts, students become active readers who become well-acquainted with the text. Incorporating text annotation into the reading curriculum can benefit second language learners, as supported by Piaget's cognitive theory.

Moreover, her literature review showed the advantages of having text annotation during and after reading. During reading, text annotation can help students to actively construct meaning and prevent themselves from just brushing over the text. In the after reading stage, text annotations can help students to go back to their notes about the text so that they may have something to tell to the class when it is time for the class discussion. According to her research, these annotations help boost their confidence to exchange their ideas with other students, since they have something to refer back to and they have understood the text well. This is also supported by Fowler (2019) as she also mentioned in her paper that using text annotations also opens opportunities for students to participate in class discussions even better. Having notes about the reading material is a strategy that helps them organize their thoughts because of their interactive connection with the text.

Woodward and Neunaber's (2020) research explored the digital text annotation tool called *Perusall*, which promotes social interaction and collaboration in reading and understanding texts. The study showed that text annotation is a metacognitive process that helps individuals process and monitor their thinking. The focus was on digital annotation, which allowed students and professors to read and comment on each other's annotations. The findings of the study indicate favorable results wherein it was said that *Perusall* helped participants to understand the text better and made replying to their teacher and classmates easier.

Similar to Woodward and Neunaber's (2020) study, Tamin and Büyükahıska's (2020) study received

positive feedback about the implementation of text annotation. The participants of their study felt like they were conversing with the text which made them understand the text more. In addition to that, annotations such as underlining, highlighting, and writing symbols were considered as students' means of self-regulating their reading. This made them memorize information easier, which undoubtedly showed positive results. However, there were still some in the participants who disagreed because they felt that using symbols and writing down comments are quite complex tasks.

Contributing to the numerous research projects that examine how annotation can enhance students' reading comprehension, there is also the study by Gasigijtamrong (2013). This study, which involved 78 Thai students taking an English course, explored the effect of multimedia annotations. These students speak Thai as their first language and English as their secondary language. According to the Gasigijtamrong (2013), the students' English language proficiency had been assessed and found to range from a low to an average level. It was observed at the conclusion of the research study that participants' vocabulary retention had increased by 42% and that their recall of the words was retained for up to three weeks.

Additionally, Gasigijtamrong (2013) looked at the benefits of annotations for students when they read, including the idea that annotations help in their comprehension of words they come across and practice reading independently as they figure out words using the annotations with little help from their teachers.

Defining Metacognition

Notwithstanding the fact that there is no precise definition of metacognition beyond Flavell's generalization that it is "thinking about thinking," Dezhbankhan et al. (2021) made an effort to bring clarity by collecting several metacognition-related ideas and constructed a conceptual framework.

Their research has laid out various theoretical models regarding metacognition and compared these side-by-side to grasp an integrated view of metacognition. One of the most common phenomena among the models is metacognitions' quality to monitor or self-regulate one's thinking process and strategies to repair it in case of difficulties. Because metacognition is mainly concerned with being aware of one's epistemological processes, self-regulation and/or monitoring is regularly encountered as it provides an individual a scope of his/her progress and the areas for improvement.

Another meaning provided for metacognition is from Louca (2008, as cited in Bonganciso and Bonganciso, 2022) wherein it was mentioned that metacognition is the propensity of a person to be conscious of their own cognitive and emotional processes as well as the ability to deliberately regulate, control, and monitor those processes. In reading, this involves being able to recognize one's own progress in understanding the text and applying schema during the whole reading process. Adjusting the pace of reading and being able to change and adapt methods based on needs, predicting the most plausible event to happen, and identifying which is realistic or not are all examples of metacognition.

Lastly, Tamin and Büyükahıska (2020), through a corpus of supporting research, contextualized metacognition simply as the state of being aware of what strategies an individual needs to use in order to facilitate the process of learning. Similar to the other researches already mentioned, metacognition is described as a skill that requires an individual to adapt based on the need.

Text Annotation as a Reading and Metacognitive Strategy

Text annotation is a strategy that encourages learners to reread and think deeply about what they are reading, and it is effective for reading and after reading texts across disciplines. It allows learners to interact meaningfully with reading material through markings and notes, making it an effective strategy for close reading. Text annotation also promotes metacognition and reflection on one's reading habits (Bonganciso &

Bonganciso, 2022; Lloyd et al., 2022; Nadrun & Yanti, 2020).

To further elaborate, in Dezhbankhan et al.'s paper, (2021) they discussed the PDCA model which involves four metacognitive management system processes: Plan, Do, Act, and Check. Each of these processes describe the metacognitive elements involved in their respective stages. In line with this systematic review, the one that is most related to this paper's objective is the *Check* aspect wherein self-monitoring and evaluation is most evident. Under the *Check* aspect, individuals regulate their information intake, monitor the quality of their performance as they do their tasks, check their level of understanding about the subject matter or task, examine appropriate strategies and coping mechanisms, and evaluate overall performance. This is in line with the discussion in Fowler's (2019) research wherein text annotation is used as a strategy to monitor and check the level of understanding about a text.

According to Nist (1985, as cited in Fowler, 2019), an in-depth processing of information may develop as a result of the high quality of text marking. In order to achieve this, different formats of annotation may be used. Feito and Donahue (2008, as cited in Fowler, 2019) discussed four areas in which annotations are usually categorized into: (1) trackings, (2) identification gaps, (3) individual repertoire, and (4) literary repertoire.

The first one is called *trackings*, which involves examining the text's contents and individual components to determine how they affect the text's overall meaning and vice versa. Readers seek out the text's purpose while tracking. To put it simply, the goal of this area of annotation is to identify important intertextual links. The second is *identification gaps*, in which the learner constructs questions and annotates them while reading the material. As the student continues to read, he or she will answer all of the questions that he or she has prepared as soon as he or she acquires the necessary information or when specifics are clarified in the text. The third area of annotation is *individual repertoire* which focuses heavily on the personal connection between the reader and the text. Under individual repertoire, students annotate by comparing their experiences in life and previous encounters with other texts to the text-at-hand. The last one is *literary repertoire* wherein students take note and annotate any unfamiliar words, phrases, or any language features that piqued their interest.

All of these areas on annotating texts are seen to be excellent study strategies because students, for example, may use this reading strategy to remember materials, to read more consciously, and to direct the text rather than yield to it. This is supported by Simpson and Nist (1990, as cited by Fowler 2019) who said that students who used text annotation as a reading strategy had better scores in their tests compared to those who did not use it; therefore, proving that text annotation can be considered as a metacognitive strategy that improves reading comprehension.

Fowler (2019) also highlighted the connection between metacognition, reading comprehension, and text annotation with regard to reading more purposefully. Just like the other researchers in this literature review, she contextualized metacognition as learners' conscious awareness of their own thought processes and their capacity to track and assess their learning. It is mentioned in her action research that annotating texts is a strategy that teachers can use to enhance reading comprehension and support students' development of metacognition and critical thinking abilities. By giving students a written representation of their cognitive insight, this study demonstrated how text annotation is employed as a metacognitive strategy. Moreover, enhancing reading comprehension skills of students would require metacognition, since "awareness is vital to students successfully navigating any literary text in order to develop a deeper interpretation of it." (p.22-23).

To give a more practical perspective on the connection between text annotation and reading, a study of forty-four Japanese university students enrolled in English classes was carried out by Shikano (2016). The purpose of this study was to understand students' thoughts as they annotated readings. The categories of text

annotations taken into account in this study were also outlined by Shikano (2016). These included chunking, writing questions, chunking, using graphic organizers, underlining, highlighting, circling vocabulary, headlines, paragraph topic sentences, statistics, and drawing modification arrows.

According to this study, students' primary reading objective is to understand the concepts that the author is attempting to convey in the text. The study's findings also showed that students most frequently utilize underlining and encircling text to help them remember it or recall it and to show that it is of importance. It is also clear that both proficient and less-proficient readers employ this strategy. Nonetheless, adding comments within the text is the least used annotation strategy. According to Shikano (2016), this could be because taking notes necessitates summarizing information and substantially understanding the text in order to generate further notes as annotations.

This study also explains how annotating texts helps readers manage their own thought processes. Students can "communicate" with the book by asking questions or marking details using question marks to make sure they understand the material correctly. This lends more credence to the notion that text annotation facilitates students' text processing and understanding of the material they are exposed to.

In summary, the literature review highlights the importance of metacognition in enhancing reading comprehension. Metacognition is defined as the conscious awareness of one's own thought processes and learning abilities, and it can be developed through the use of metacognitive reading strategies such as text annotation. Text annotation allows students to represent their cognitive insight in a written form and helps them develop critical thinking skills. It also aids in organizing information from the text, regulating pace and progress, and evaluating overall performance in reading tasks. Being metacognitively aware of the appropriate strategy to employ while reading is considered a key indicator of skillful reading. Overall, the findings suggest that incorporating metacognitive strategies in reading instruction can lead to more purposeful and effective reading (Bonganciso & Bonganciso, 2022; Dezhbankhan et al., 2021; Nadrun & Yanti, 2020; Tamin & Büyükahıska, 2020; Fowler, 2019)

DISCUSSION

Reading comprehension can be considerably improved by the practice of text annotation, which is the addition of notes, comments, or annotations to a text. To begin with, annotation encourages readers to actively participate with the content by utilizing various text annotation techniques, such as underlining, highlighting, encircling, creating marginal notes, and adding comments to identify important topics, to critically assess and analyze the text as they read (Lloyd, et al., 2022; Shikano, 2016). Readers can track their understanding and clarify areas in the text which they find confusing while reading because of this strategy, which encourages metacognition (Nadrun and Yanti, 2020). Annotations also provide as helpful points of reference for review, allowing readers to go back over significant sections and consider how they understood them, which strengthens learning.

Furthermore, text annotation promotes more in-depth engagement with the material, which enhances knowledge retention (Gasigijtamrong, (2013). Readers are more likely to have stronger recall when they actively interact with a text by annotating it. Through the process of summarizing key concepts, taking note of the words that they deem unfamiliar, and drawing personal connections, readers establish cognitive connections that improve retention. Moreover, reading annotated texts may help readers develop their comprehension skills over time, enabling them to handle increasingly difficult content more easily.

CONCLUSION

The literature review shows that metacognition is important in improving reading comprehension and that

metacognitive reading strategies, such as text annotation, can have a significant impact on student reading abilities. Metacognition involves understanding one's own thought processes and learning abilities, which allows students to monitor their learning and adjust their strategies accordingly. Text annotation helps students regulate pace and progress, identifying areas where they need to focus and areas where they can skim or skip over content, leading to more purposeful and efficient reading and improved comprehension and retention.

All things considered, this systematic review has yielded a wealth of useful information which suggests that metacognitive reading strategies, such as text annotation, are essential for developing skillful reading abilities. By teaching students to be metacognitively aware and to use these strategies effectively, educators can enhance students' reading comprehension and prepare them for success in academic and professional settings.

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